

REMARKS

Applicant would like to than the examiner for the indication that claims 52-54 and 66-68 contain allowable subject matter.

Drawings

The Patent Office objected to the drawings under 37 C.F.R. § 1.83(a) for not showing every feature of the invention specified in the claims. More specifically, the Patent Office objected to the drawings because the second heat exchanger recited in claims 45 and 59 is not clearly shown in the drawings. In response, Applicant requests that claims 45 and 59 be canceled, without prejudice.

Claim Objections

The Patent Office objected to claims 42 and 52 because that recitation "a second valve" should read "a valve." Since only claims 42 and 56 recite "a second valve," Applicant has assumed that this objection applies to claims 42 and 56 rather than claims 42 and 52. As discussed below, Applicant has amended claims 41 and 55 to include the subject matter of claims 42 and 56, respectively. As such, the objection to claims 42 and 56 should be withdrawn.

Claim Rejections – 35 U.S.C. § 112

The Patent Office rejected claims 45 and 59 under 35 U.S.C. § 112, second paragraph, as being indefinite. As stated above, Applicant has requested that claims 45 and 59 be canceled, without prejudice. As such, the rejection of claims 45 and 59 should be withdrawn.

Claim Rejections – 35 U.S.C. § 103 (Nagamura and Nanaji)

The Patent Office rejected claims 41-43, 46-51, 55-57, and 60-65 under 35 U.S.C. § 103(a) as being unpatentable over Nagamura (U.S. Patent No. 5,685,169) in view of Nanaji (U.S. Patent No. 6,302,165). Applicant has amended claim 41 to further include the subject matter of original claims 42, 49, and 50. Similarly, the Applicant has amended claim 55 to include the subject matter of original claims 56, 63, and 64.

Regarding claims 41 and 55, the combination of Nagamura and Nanaji fails to teach or suggest a valve coupled inline to an outlet of the heat exchanger, wherein the valve is under

control of said electronic controller and the valve is opened to allow the cooling media to circulate through the radiator, and an electric controller that opens the valve and activates the pump if the storage tank pressure is greater than a preset pressure threshold. Thus, since claims 41 and 55, as amended, include limitations not taught or suggested by the prior art, the Patent Office has not established a prima facie case of obviousness. MPEP § 2143.03.

Nagamura discloses a heat exchanger (74) disposed above the liquid surface in a product storage tank (30) for cooling uncondensed gas stored in an upper space of the storage tank (30). Referring to col. 5, lines 33-37, Nagamura states:

The inlet side of the cooling medium of the heat exchanger 74 is connected to the refrigerator by way of a pipe 65 and an expansion valve 88. The outlet side thereof is connected to the refrigerator 40 by way of a pipe 66.

However, as admitted by the Patent Office, Nagamura fails to teach the claimed electronic controller. More specifically, Nagamura fails to teach an electronic controller that activates a pump and circulates a cooling media through a heat exchanger to cool the cooling media and circulate the cooling media through the radiator. Further, Nagamura fails to teach an electronic controller that opens the expansion valve (88) and activates a pump if a storage tank pressure is greater than a preset pressure threshold. As best understood by the Applicant, the expansion valve (88) of Nagamura is always open and used as an interface between high and low pressure regions.

Nanaji fails to cure these deficiencies. More specifically, Nanaji discloses a service station vapor management system including a central control system (50) and various sensors (61, 63, 65, 67, 68) that operates to monitor operation, determine an overall service station V/L ratio and control operation to maintain the V/L ratio to total hydrocarbon emissions within predetermined limits. Nanaji also discloses a vent (17) having a controllable vent valve (19), which derives a portion of its control from the central control system (50). However, Nanaji fails to teach or suggest an electronic controller that opens a valve coupled inline to an outlet of a heat exchanger and activates a pump if the storage tank pressure is greater than a preset pressure threshold.

Further, if a combination must be modified in order to teach the claimed invention, this is further evidence of non-obviousness. When Nanaji is combined with Nagamura, the combined system includes the heat exchanger (74) of Nagamura and the central control system (50), vent

(17), and controllable vent valve (19) of Nanaji. Although Nanaji teaches that the central control system (50) may control the controllable vent valve (19), nothing in Nanaji teaches or suggests opening a valve inline with the heat exchanger (74) of Nagamura or activating a pump if the storage tank pressure is greater than a preset pressure threshold. Thus, the combined system would include the heat exchanger (74) of Nagamura, which is always active and the central control system (50) of Nanaji that controls the controllable vent valve (19) and operates to monitor operation, determine an overall service station V/L ratio and control operation to maintain the V/L ratio to total hydrocarbon emissions within predetermined limits. Therefore, the combination does not teach or suggest all limitations and requires modification to arrive at the claimed invention.

The only suggestion for modifying the combined system such that the central control system (50) opens a valve inline with a heat exchanger and activates a pump if the storage tank pressure is greater than a preset pressure threshold is found in Applicant's own disclosure. Accordingly, the combination of Nagamura and Nanaji fails to disclose an electronic controller that opens a valve inline with a heat exchanger and activates a pump if the storage tank pressure is greater than a preset pressure threshold, and claims 41 and 55 are allowable.

For at least the same reasons claims 41 and 55 are allowable, claims 43, 44, 46-48, 51, 57, 58, 60-62, and 65 are allowable. However, Applicant reserves the right to further address the rejections of claims 43, 44, 46-48, 57, 58, 60-62, and 65 in the future if necessary.

Claim Rejections – 35 U.S.C. § 103 (Nagamura and Hilliard, Jr.)

The Patent Office rejected claims 44 and 58 under 35 U.S.C. § 103(a) as being unpatentable over Nagamura (U.S. Patent No. 5,685,169) in view of Hilliard (U.S. Patent No. 5,513,680). In view of the discussion of claims 41 and 55 above, claims 44 and 58 are allowable. However, Applicant reserves the right to further address the rejections of claims 44 and 58 in the future if necessary.

Allowable Subject Matter

The Patent Office indicated that claims 52-54 and 66-68 contain allowable subject matter. Applicant has re-written claims 52, 54, 66, and 68 to be in independent form. As such, claims 52-54 and 66-68 are allowable.

New Claims


Applicant has added new claims 112-125, which are similar to original claims 43, 44, and 46-48. Accordingly, a new search is not required. Claims 112-115 depend from claim 52, claims 116-118 depend from claim 54, claims 119-122 depend from claim 66, and claims 123-125 depend from claim 68. Since claims 52, 54, 66, and 68 are allowable, claims 112-125 are also allowable.

In view of the discussion above, claims 41, 43, 44, 46-48, 51-55, 57, 58, 60-62, 65-68, and 112-125 are allowable. Reconsideration is respectfully requested. If any issues remain, the examiner is encouraged to contact the undersigned attorney of record to expedite allowance and issue.

Respectfully submitted,

WITHROW & TERRANOVA, P.L.L.C.

By:


Steven N. Terranova
Registration No. 43,185
P.O. Box 1287
Cary, NC 27512
Telephone: (919) 654-4520

Date: December 7, 2004
Attorney Docket: 2400-725A

<p align="center">CERTIFICATE OF TRANSMISSION</p> <p>I HEREBY CERTIFY THAT THIS DOCUMENT IS BEING TRANSMITTED VIA FACSIMILE ON THE DATE INDICATED BELOW TO:</p> <p>Examiner: <u>Huynh, Khoa D.</u> Art Unit: <u>3751</u> Fax: <u>703-872-9306</u></p> <p><u>Kelly Farrow</u> Name of Sender</p> <p><u>[Signature]</u> Signature</p> <p><u>12/7/04</u> Date of Transmission</p>

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.